

The 0000Z synoptic chart for 17 July depicted multiple tropical cyclones over the Philippine Sea. Harriet was weakening to depression status east of Okinawa as Jean developed storm force winds east of the Luzon Straits. Meanwhile, evidence of a strengthening depression was noted in the monsoon trough 250 nm west-southwest of Guam. The last system, destined to become Ivy, intensified to tropical storm force the following day (18th) (Figure 4-7). Within two days, Ivy struck Luzon as a well developed typhoon.

Ivy's track across the Philippine Sea was affected by a strong subtropical ridge resulting in movement speeds of 15-18 knots. Once Tropical Storm Jean crossed into the East China Sea, the subtropical ridge built westward and prevented Typhoon Ivy from taking a climatological northwesterly track. Instead, the typhoon was forced to maintain a westward course near the 15th parallel. The typhoon began to deepen rapidly on the 18th. Its central pressure dropped 32 mb in 20 hours, reaching a minimum of 945 mb (19/1037Z) about 15 hours prior to landfall. Filling slightly, Ivy struck the Luzon coast south of Baler with sustained winds of 90 knots early on the 20th. A peak gust of 97 knots from the east and a minimum pressure of 973 mb was reported at the Baler meteorological station during eye passage.

The severity of turbulence associated with Ivy prior to landfall on Luzon was readily attested to by an aircraft reconnaissance crew late on the 19th. During penetration of the wall cloud, turbulence was sufficient to flame out one of the WC-130's four engines. Fortunately, engine restart was accomplished by the crew while orbiting in the eye.

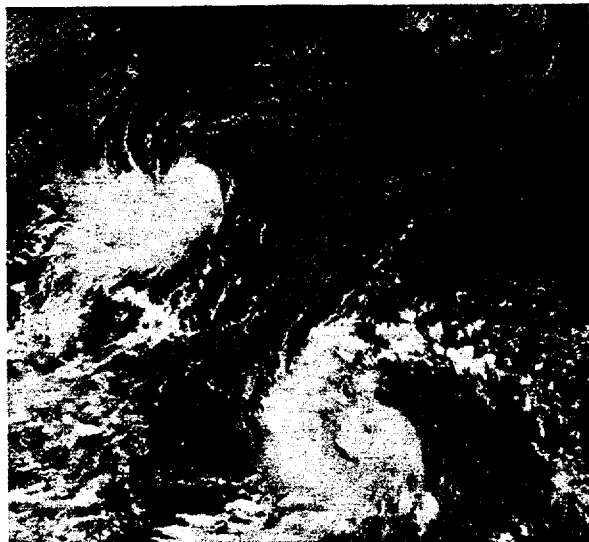


FIGURE 4-7. Tropical Storm Ivy about 450 nm east of Samar Island. Tropical Storm Jean is seen approaching Taiwan, 18 July 1974, 0253Z. (DMSP imagery)

After crossing central Luzon, Ivy emerged into the South China Sea from the Lingayen Gulf quickly regaining typhoon strength lost during transit over the mountainous terrain. In response to a mid-tropospheric trough positioned just east of the Tibetan Plateau, Ivy began to take a more northward course gradually slowing in forward speed and reintensifying as it approached South China (Figure 4-8). Estimates based on satellite data indicated that prior to landfall (just east of the Luichow peninsula on the 22nd) maximum sustained winds near the center were probably in the 85-95 knot range.

The circulation of Ivy caused gale force gusts at Hong Kong as she passed 150 nm south of the Colony. Peak gusts of 63 knots and 55 knots were recorded on the exposed islands of Cheung Chau and Waglan Island, respectively. Maximum 24-hour rainfall was relatively light at the Royal Observatory with only 1.4 inches recorded on the 22nd. Ivy's circulation quickly lost identity after moving inland midway through the 22nd and the system disappeared from the surface analysis 24 hours later.

In the Philippines, the typhoon's casualty aftermath mounted to 66 persons with 46 of these listed as missing. Hardest hit by Ivy was Baler, a town of 15,000, in which newspaper reports indicated 50% of the houses were leveled. Also in the Polillo Island group in Lamon Bay, 42 fishermen were reported lost following Ivy's passage. Estimates of dollar damage to structures, crops, and livestock in Luzon were placed at \$2 million.

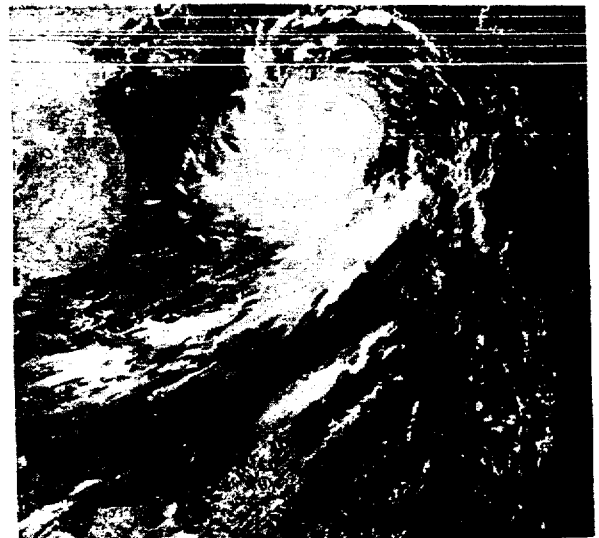


FIGURE 4-8. Typhoon Ivy in the South China Sea 250 nm south of Hong Kong, 21 July 1974, 0339Z. (DMSP imagery)